

Accounting for viral loss due to infection

Basic Model (with viral loss due to infection)

$$\dot{T} = \lambda - dT - kVT$$

$$\dot{I} = kVT - \mu I$$

$$\dot{V} = n\delta I - cV - kVT$$

The term in bold (viral loss due to infection) is omitted from the Basic Model because it is a low probability event (k is small); this omission is the standard, accepted form of the Basic Model.

Also, inclusion of this term does not change the results at all.

crHIV-1 model (with viral loss due to infection)

$$\dot{T} = \lambda - dT - kVT - kV_T T$$

$$\dot{I} = kVT - \mu I$$

$$\dot{I}_T = kV_T T - dI_T - kVI_T$$

$$\dot{I}_D = kVI_T - \delta' I_D$$

$$\dot{V} = n\delta I + Dn\delta' I_D - cV - kVI_T - kVT$$

$$\dot{V}_T = P^2 Dn\delta' I_D - cV_T - kV_T T$$

Including $kV_T T$ and kVT make absolutely no difference in the results while including kVI_T makes only a small quantitative, but no qualitative change in the result.